Cisco Mobility Solutions Overview

For Large and Midsize Organizations

Mobile technologies are having a dramatic effect on the way we live, work, learn, and play. While organizations recognize that the impact of mobility could be as great as that of the web, many are struggling with what exactly to do about it. IT leaders have the opportunity to direct this transformation. To help apply mobile technologies to transform the way we all work. And to enable organizations to better engage with mobile consumers of their products and services.

Over the past few years, IT has been focused on just attempting to control the influx of smartphones, tablets, e-readers, and other mobile devices into the work environment. It is now apparent that with the right approach, IT can do a lot more to capture the opportunities mobility offers while still minimizing the risks it introduces. To fully realize this potential, IT needs to acknowledge some key guidelines:

- **Mobility strategies:** Mobility has crept into most organizations in a piecemeal way. Different groups have instigated disparate usage and device policies, mobile application approaches, and ways to share content. As a result, few employees have realized the full productive and collaborative power of these technologies. And IT is left fighting fires rather than leading the organization to the productivity and efficiency gains it aspires to. Taking a companywide approach simplifies the substantial integration effort and leads to better results.*

- **Mobile workspaces:** The rapid adoption of smartphones and tablets in the workplace is undoubtedly responsible for the initial wave of the mobility revolution; however, the real benefits are arriving through the applications, services, and data that employees can access for a productive work experience on any device. The race is on to go beyond basic email and calendaring to deliver complete mobile workspaces suited to the growing spectrum of device form factors and capabilities.

- **Flexible mobility infrastructure platform:** Trying to make employees' mobile experiences full-featured and consistent means delivering a broad set of applications and services to a wide variety of devices. Employees have differing work styles, depending on whether they are sales managers, executives, doctors, teachers, call agents, mobile field workers, or something else. IT needs to build a flexible mobility infrastructure platform to support them all. Easier said than done.

- **Application delivery models:** IT decision makers are under pressure to deliver mobile apps. They can't afford to depend on one model exclusively and need to evaluate which apps should run natively, which should run in a browser environment, and which should use a hybrid approach. They must consider which ones should use application or desktop virtualization, and which ones should be delivered from the cloud in a software-as-a-service (SaaS) model. Each approach has pros and cons. Cost, time, resources, data security, user experience, and back-end integration all need to be taken into account. The mobility infrastructure needs to optimize and secure all these delivery models.

- **Mobile consumers:** While much attention has, until recently, been focused on employee mobility, in many cases the largest business impact can be achieved by better engaging customers who are themselves using mobile devices. These can be consumers of products or services visiting a broad set of venues, including retail stores, hospitals, hotels, airports, stadiums, and many more. At the same time that it is mobilizing workers, IT needs to work with the business owners to understand how mobile technologies can help build better customer relationships and experiences. Many organizations are already using mobility to improve their customers' experience* (Figure 2).

*2014 Mobility Landscape Survey, Cisco Strategic Marketing Organization, 2014.

Figure 1. Business Benefits of Employee Mobility

Organizations are enabling employee mobility to:

Increase productivity **65**%

62% Increase efficiencies

54%
Improve customer service

54%
Save money

53%
Improve collaboration

52%
Improve employee satisfaction
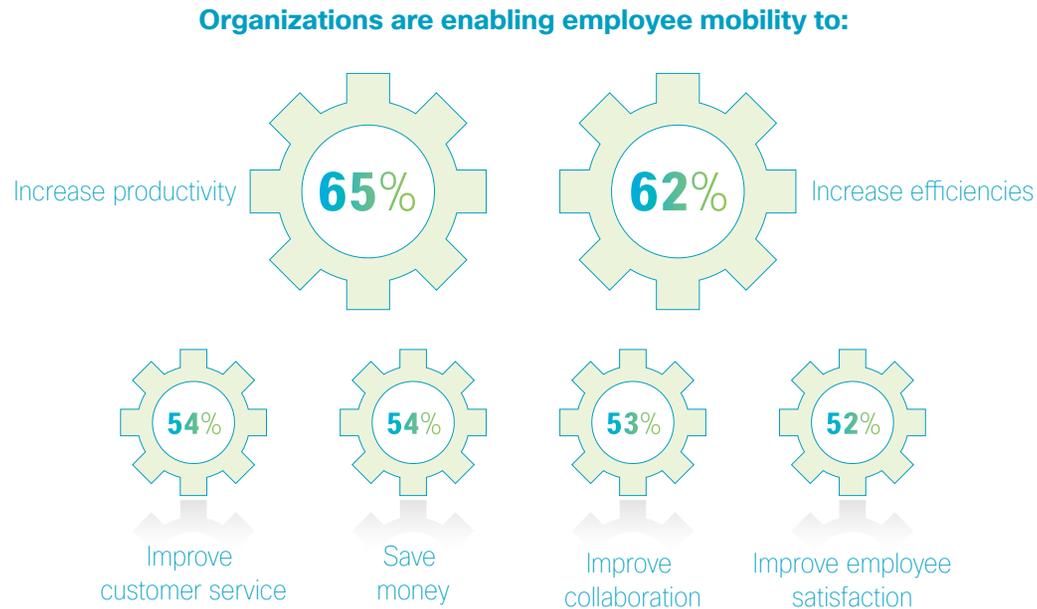
Figure 2. Business-to-Consumer Mobility Adoption

Of these organizations…

46% support customers with mobility initiatives

57% deliver mobile applications to customers

56% provide on-site wi-fi

Source: *2014 Mobility Landscape Survey*, Cisco Strategic Marketing Organization, 2014.

Cisco has acknowledged the need to address our customers' array of employee and consumer mobility requirements with a full set of mobility solutions. These solutions are designed to help IT plan, design, and implement a mobility journey that securely improves productivity, enables new ways of doing business, reduces costs, and mitigates risk. Because each organization has a different urgency associated with embracing these solutions, we have designed the solutions to build out incrementally so that they can be adopted at a pace that meets your business priorities (Figure 3).

Figure 3. Taking a Phased Approach to the Mobility Journey: Devices, Applications, and Experiences

1
DEVICE
Securing mobile
device access

2
APPLICATION
Delivering mobile
applications

3
EXPERIENCE
Engaging customers with
location-based experiences

VALUE ⟶

Cisco BYOD Solution
Cisco Meraki BYOD Solution

Cisco Mobile
Workspace Solution with Citrix

Cisco Connected
Mobile Experiences

Cisco offers a comprehensive, modular portfolio of solutions:

- **Provide secure mobile device access with Cisco® bring-your-own-device (BYOD) solutions (on-premise and cloud managed):** Secure mobile devices on the network using Cisco WLAN, security, and policy management technologies integrated with Cisco partners' mobile device management (MDM) software.

- **Deliver complete application work environments with Cisco Mobile Workspace:** This solution gives your employees highly secure, easy access to a portable workspace environment from any device.

- **Improve customer experiences with Cisco Connected Mobile Experiences (CMX):** This solution lets businesses detect, connect, and engage customers over Wi-Fi. You can locate customer mobile devices, then send personalized, context-specific content to them to advertise, educate, and inspire action.

Step 1: Secure Mobile Device Access

Organizations are experiencing a fundamental shift from traditional tethered work styles to a mobile-centric world, due in large part to workers' massive adoption of mobile smart devices. According to Cisco's *2014 Mobility Landscape Survey*, over 70 percent of organizations provide corporate-issued tablets and smartphones, while 47 percent offer BYOD capability. In both cases, IT needs to address this new reality by enabling employees to use mobile devices for improved productivity and responsiveness without compromising the organization.

Cisco provides both on-premise and cloud-managed solutions (Figure 4) that help IT simplify the secure deployment and management of mobile devices in the work environment.

Figure 4. Cisco On-Premise and Cloud-Managed BYOD Solutions

Cisco BYOD Solution (On-Premise Managed)

Cisco Meraki BYOD Solution (Cloud Managed)
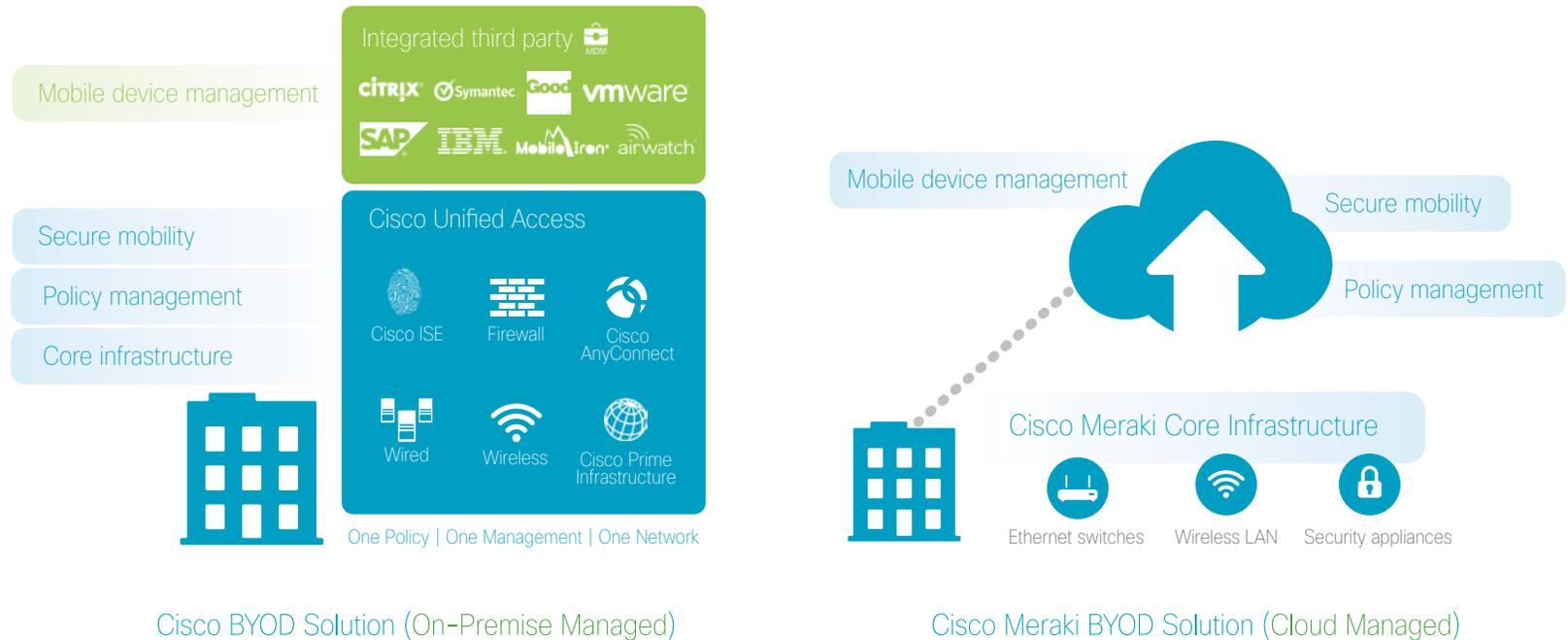
Source: *2014 Mobility Landscape Survey*, Cisco Strategic Marketing Organization, 2014.

Mobile Device Challenges

The proliferation of mobile devices in the workplace creates challenges for your IT team, including:

· Scaling access to support growth in devices and applications

· Enforcing access policies on all devices

· Minimizing the resources needed to bring mobile devices on board

· Delivering a great mobile business experience, even with network-intensive applications

· Mitigating security and privacy risks such as malware and loss of intellectual property

Cisco BYOD Solution—On-Premise

The Cisco BYOD Smart Solution is designed to simplify and scale mobile device access by combining best-in-class technology, a validated design, modular building blocks, third-party integration, professional services, and end-to-end support.

A modular platform for mobile device access as well as the foundation for the Cisco Mobile Workspace solution, the on-premise solution lets you start with the modules you need for today's business needs and add new ones as your needs change, providing investment protection. It has the flexibility to address a diverse set of use cases with multiple deployment options.

Solution highlights include:

· **Core infrastructure:** Based on the Cisco Unified Access™ platform, the solution reliably delivers scalable access to all devices. It optimizes the user experience with advanced gigabit wireless technologies that, together with Cisco High Density Experience (HDX) technology, support unprecedented device and application density. The advanced RF optimization and interference detection, as well as application identification and classification, make for a great user experience even under trying conditions. And Cisco Prime™ Infrastructure management software accelerates troubleshooting by giving your IT team a single view into wired and wireless networks.

· **Policy management:** The Cisco Identity Services Engine (ISE) consistently applies your organization's access policies based on the employee's identity and the device. It automatically brings personal devices on board the first time they attempt to connect, saving time for your IT team. And Cisco ISE provides the industry's first systemwide visibility, showing who and what devices are on the wired, wireless, and VPN networks.

· **Secure mobility:** With the Cisco AnyConnect Secure Mobility Solution and the Cisco Adaptive Security Appliance (ASA), employees can securely access applications and data over 3G and 4G networks, Wi-Fi, and wired networks.

· **Mobile device management (MDM):** The Cisco BYOD Smart Solution integrates with a variety of third-party tools for MDM to streamline policy management and the user onboarding experience. These MDM tools can be used to establish policies (such as encrypted storage or PIN-lock requirements), track device location, remotely wipe devices, and disable features such as cameras and audio recorders.

Cisco Meraki BYOD Solution—Cloud Managed

Built-in BYOD support provided by the Cisco Meraki® solution makes it easier than ever to securely support user-owned and company-issued tablets, smartphones, and laptops—all managed from the cloud. The Cisco Meraki BYOD Solution provides device-based security policies, Network Access Control (NAC), and MDM. The cloud-managed solution helps keep network access secure and applies device-specific policies without opening security holes or causing an undue support burden.
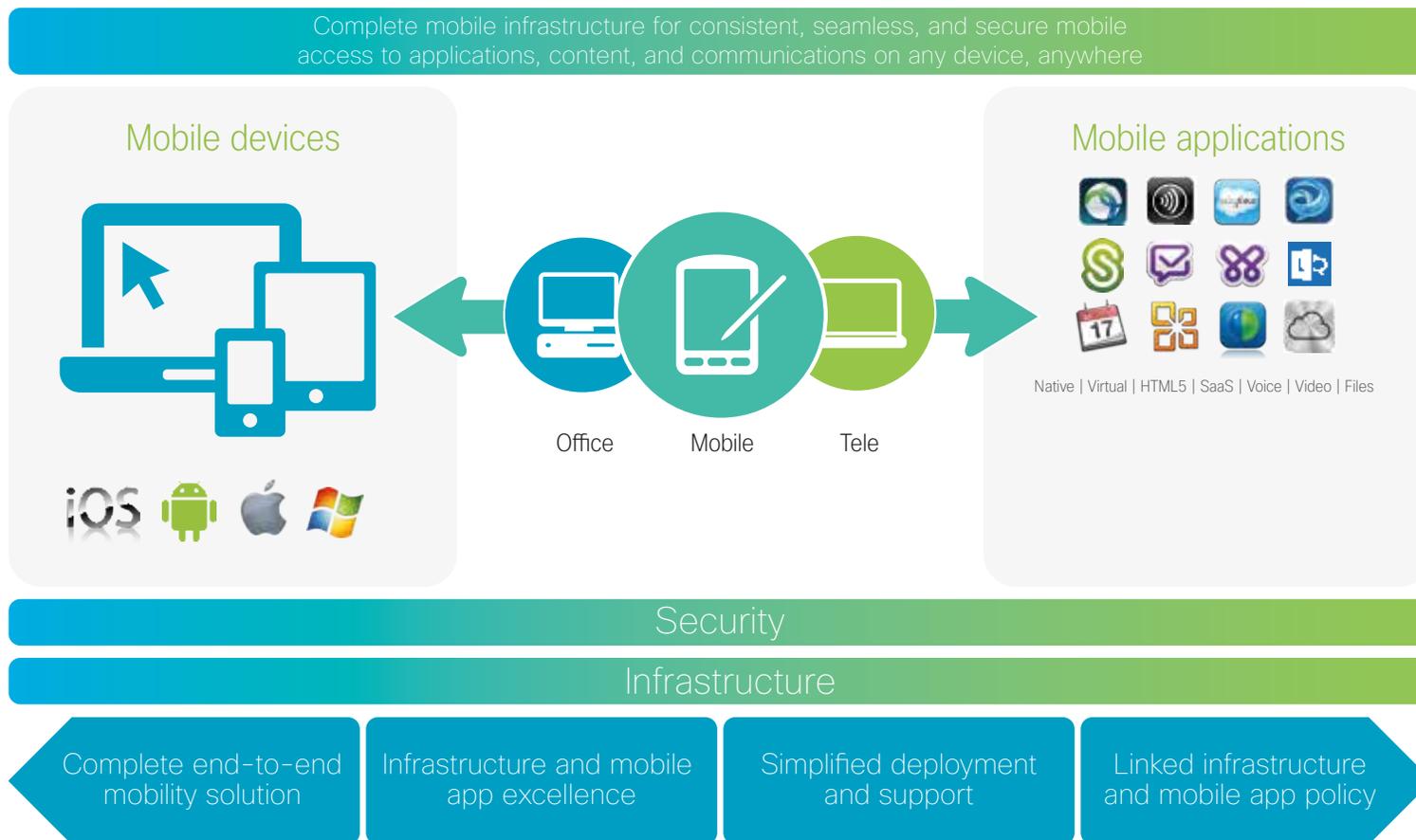
Solution highlights include:

- **Manage mobile devices, PCs, Macs, and more:** Cisco Meraki Systems Manager provides over-the-air centralized management, diagnostics, and monitoring for the mobile devices managed by your organization. Systems Manager monitors each of your organization's devices, showing useful metrics including client hardware and software information and recent location, and even lets administrators remotely lock and erase devices.

- **Enhance wireless performance:** In challenging high-density conditions, integrated technology—including cloud-based automatic RF optimization, Layer 7 application traffic shaping, per-user bandwidth limits, and live monitoring and troubleshooting tools—lets you see and take control of all the mobile devices on your network, with no configuration required. Client devices are automatically identified and classified, letting you distinguish between tablets and smartphones, device operating systems, and even manufacturers.

- **Automatically apply policies by device type:** Device-specific policies can be applied automatically to restrict, quarantine, or throttle user-owned devices. Cisco Meraki client fingerprinting technology immediately recognizes iOS, Android, Windows, and Mac devices, and even lets you apply more restrictive policies for unknown devices.

- **Analyze mobile traffic:** See how many mobile clients have connected, measure the bandwidth they've used, and even see their percentage of total traffic. Network summary reports are delivered to your inbox at any time or on an automatic, monthly schedule.

Step 2: Deliver Applications with Cisco Mobile Workspace

Cisco Mobile Workspace builds on the BYOD solution to create a highly secure employee mobility solution that simplifies delivery of mobile work environments on any device, anywhere. It delivers mobile workspaces that comprise all the applications, content, communication, and collaboration services workers need to do their jobs well (Figure 5).

Figure 5. Cisco Mobile Workspace

Complete mobile infrastructure for consistent, seamless, and secure mobile access to applications, content, and communications on any device, anywhere

Mobile devices

Mobile applications

Native | Virtual | HTML5 | SaaS | Voice | Video | Files

Office   Mobile   Tele

Security

Infrastructure

Complete end-to-end mobility solution

Infrastructure and mobile app excellence

Simplified deployment and support

Linked infrastructure and mobile app policy

Mobile Workspace Challenges

Delivering applications, communications, and content securely on any device, while meeting your users' experience expectations, creates another set of challenges for your IT team, including:

- Enforcing the right level of data and application security across the spectrum of risk scenarios

- Simplifying mobility for users and IT

- Building a flexible mobility infrastructure to meet different work styles and application needs

With Cisco Mobile Workspace, employee experiences become full-featured and consistent. Employees can choose any type of device to simply access all their apps and documents wherever they are. They experience all their applications and communication services in a way that best suits the different device form factors.

Also, with Cisco Mobile Workspace, integration isn't a hassle. Cisco handles all of the cross-technology integration burdens that transcend IT organizational boundaries. Our solution integrates a broad set of Cisco technologies, including networking, policy, security, collaboration, and data center. Then we integrate our partners' leading tools for mobility management—so you get the mobility platform you need, already integrated into one well-oiled solution that just works for all your worker use cases.

The result? A ready-made mobile workspace solution that opens doors for users and reduces multivendor buying, management, integration, and technology roadmap headaches.

Cisco Mobile Workspace can be deployed incrementally, built on top of three standalone solutions:
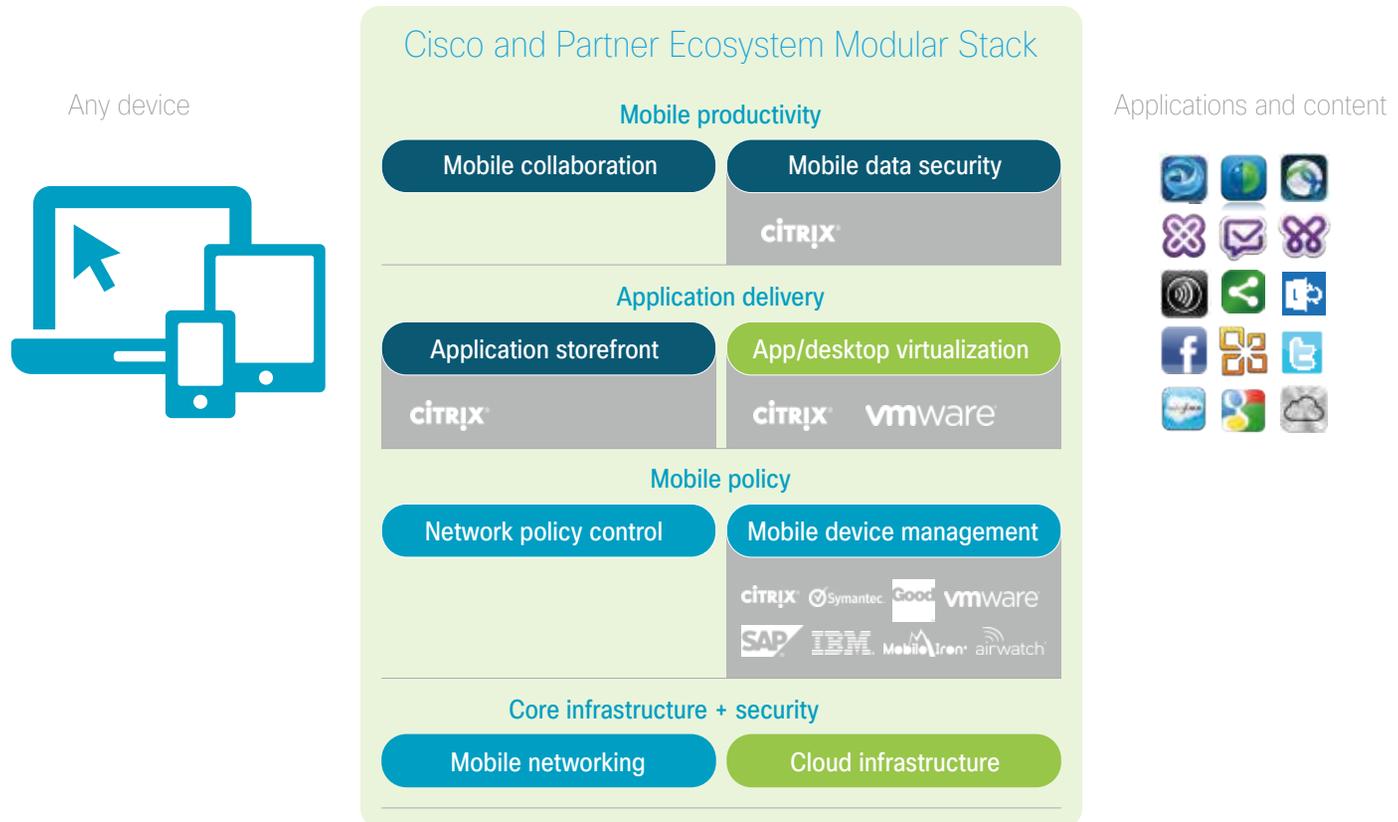
- **BYOD:** Secure mobile devices on the network using Cisco WLAN, security, and policy management technologies integrated with Cisco partners' MDM software.

- **Mobile collaboration:** Extend your Cisco Unified Communications and conferencing apps to mobile devices, and give users features and experiences consistent with what they get on their laptops.

- **Desktop virtualization:** Securely deliver Windows-based virtualized desktops and applications to any device via the data center, where apps and data remain safely secured. Cisco partners with VMware and Citrix to deliver these solutions.

Cisco has partnered with Citrix to deliver the first complete end-to-end mobile workspace solution that complements Cisco technologies with leading enterprise mobility management (EMM) and desktop virtualization technologies (Figure 6). Backed by validated designs and services and a comprehensive solution roadmap, this first complete solution gives IT teams a comprehensive mobility deployment and management blueprint.

Figure 6. Components of the Cisco Mobile Workspace Solution

- Cisco BYOD Solution
- Cisco Desktop Virtualization Solution
- Cisco Mobile Workspace Solution

Cisco and Partner Ecosystem Modular Stack

Any device

Applications and content

Mobile productivity

Mobile collaboration	Mobile data security
	CITRIX

Application delivery

Application storefront	App/desktop virtualization
CITRIX	CITRIX vmware

Mobile policy

Network policy control	Mobile device management
	CITRIX Symantec. Good vmware SAP IBM MobileIron airwatch

Core infrastructure + security

Mobile networking	Cloud infrastructure

Step 3: Create Personalized Customer Experiences with Cisco Connected Mobile Experiences

Of course, mobility isn't just about your employees. It's also about creating more personalized and delightful experiences for your customers. Whether customers are checking email, looking up information on the web, or using an app, wireless connectivity gives you a window into their real-time locations and behavior—information you can act on in powerful ways. And Cisco Connected Mobile Experiences can help (Figure 7).

Rather than simply providing an Internet connection when customers enter your venue, Cisco Connected Mobile Experiences helps you deliver relevant content and services that benefit both your customers and your organization, such as:

- **Providing contextual, location-based content:** You can push personalized offers and messages to customers connected to your wireless network through "geofencing" applications, which track their movements and trigger the sending of information and offers to them as they move through specific locations.
- **Engaging customers with loyalty programs in real time:** When customers are using a store's app, retailers can offer special prices or promotions as they shop, based on their profile and past purchasing history.
- **Augmenting the in-venue experience:** You can use your wireless infrastructure to enhance the physical experience of the customer or end user. "Wayfinding" applications, for example, provide interactive maps that help customers and visitors find what they're looking for more quickly and access additional information and services relevant to a specific location.

Ultimately, Cisco Connected Mobile Experiences gives you a connected mobility platform that:

- Helps protect the security of your business and the privacy of your customers
- Enables seamless, transparent onboarding, with the ability to connect to users in multiple ways
- Puts mobility data and tools in the hands of your lines of business—not just the IT department
- Provides flexibility and scalability to support new services and third-party applications as your in-venue engagement strategy evolves

Figure 7. Cisco Connected Mobile Experiences

DETECT — GUEST PRESENCE — Mobile device detection and registration

CONNECT — GUEST ACCESS — Easy, highly secure Wi-Fi onboarding

ENGAGE — GUEST EXPERIENCE — Location-based content and services

Why Cisco?

Cisco offers a systems-level approach to business-to-employee (B2E) and business-to-consumer (B2C) mobility solutions that enables you to maximize the potential benefits for your organization at a pace that works for you:

- Cisco mobility solutions bring together best-in-class technologies and support to give you a strategic platform for your immediate and longer-term mobility initiatives. Find Out More >

- Cisco on-premise or Cisco Meraki cloud-managed BYOD solutions help increase the business value of your wireless investment by providing a high-quality user experience, information security, and ease of support. Take a Test-Drive >

- Cisco's Mobile Workspace Solution can accommodate all of your application and employee needs while giving you centralized control with lower costs and improved ROI. Learn More >

- Cisco Connected Mobile Experiences gives you the tools to create a better onsite experience for your users, gain vital insight into visitor behavior, and deploy marketing and contextual information at the time and place where it will matter most. See How >

- Cisco and our partners' mobility services provide the additional expertise to help augment your own in-house team. Learn How Our Services Can Help You >

So move beyond device connectivity to empowering your employees and customers with meaningful mobile experiences today.